

APRIL/MAY 2025

23UEL11 — BASIC ELECTRONICS

Time : Three hours

Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. State Ohm's law.
2. What is superposition theorem?
3. Define RMS value.
4. Draw ac circuit diagram with parallel resistance.
5. What do you mean ripple factor?
6. Draw the circuit diagram for differentiator.
7. Draw common emitter mode transistor characteristic circuit.
8. Draw the circuit diagram of AND gates using diodes and write the logic truth table.



9. Write any two applications of feedback amplifier.

10. Draw the block diagram of feedback amplifier.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) State and explain Kirchhoff's law with circuit diagram.

Or

(b) Explain Norton's theorem with an example.

12. (a) Discuss the series reactance and resistance circuit.

Or

(b) Draw the circuit diagram for parallel resonant circuit and explain it.

13. (a) Explain the working principle of full wave rectifier.

Or

(b) Define Zener diode and explain the characteristics of Zener diode.

14. (a) Explain the characteristics of a transistor in CB mode.

Or

(b) Draw the neat circuit diagram of emitter follower and explain its operation

15. (a) Briefly explain the distortion and bandwidth.

Or

(b) Discuss the analysis of voltage and current in feedback amplifier circuit.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Draw the circuit diagram and explain the Thevenin's theorem.

17. Explain series resonance circuit with a neat circuit diagram.

18. Draw the circuit diagram of bridge rectifier and explain its working principle.

19. Describe the construction and working of RC coupled single stage amplifier.

20. Write the general characteristics of negative feedback amplifier.

